

GEMÜ®

Ball Valve, Stainless steel Multi-port

Construction

GEMÜ K715, 711, 728 and 751 are 3/2-way stainless steel ball valves with top flange EN ISO 5211 in sizes 1/4" to 2" (DN 8 to DN 50). The top flange enables both pneumatic and electric actuators to be mounted.

GEMÜ 711 is manually operated and has a plastic sleeved hand lever with a locking device.

GEMÜ 751 is operated by a low maintenance, pneumatic piston actuator in single acting (spring return) or double acting design. The actuator has a robust Alodur coated aluminium housing. An integral optical position indicator as standard.

GEMÜ 728 has a low maintenance electric actuator with a powerful DC motor. The reduction gear in the motor provides the rotation through 90°. The actuator has an optical position indicator and a manual override as standard.

Features

- Suitable for inert, corrosive*, liquid and gaseous media and steam
- Suitable for vacuum applications
- The ball valves comply with the safety requirements of Annex I of the European Pressure Equipment Directive 2014/68/EU (PED) for fluids of groups 1 and 2
- Compliance with the technical requirements of TA Luft (German Clean Air Act) 2002 Sec. 5.2.6.4 VDI 2440 Nov. 2000, Sec. 3.3.1.3
- ATEX version on request
- Relief bore hole

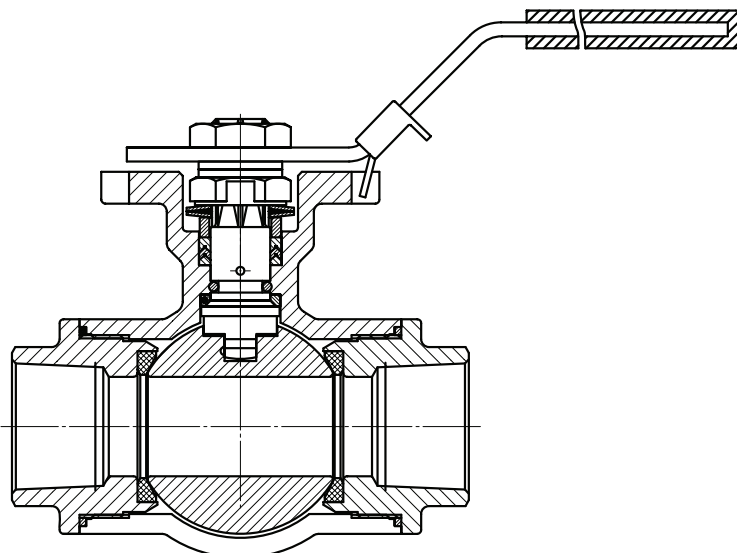
*see information on working medium on page 2

CE
0035
PED/97/23/EC
Category III
Module H

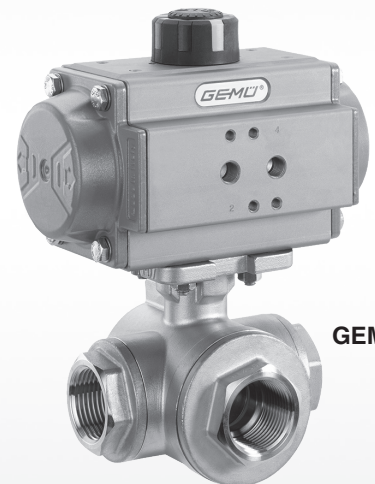


TA-LUFT

Sectional drawing



GEMÜ 711



GEMÜ 751



GEMÜ 728

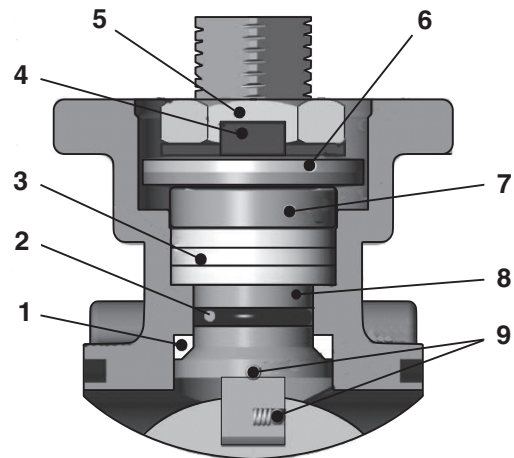
GEMÜ®
K715, 711, 728, 751

Product description

The spindle seal system

Long service life due to threefold spindle seal, TA-Luft compliant

- Conical spindle seal:
The seal **1** arranged at an angle of 45° effectively prevents the leakage of medium when operating the spindle.
- O-ring:
Stabilising spindle seal **2** with low wear and long service life
- Pretensioned, self-adjusting spindle seal:
The spindle packing consists of several V-rings **3**, a spring washer **6** and a stainless steel sleeve **7**.
The spring washer **6** is pretensioned via the spindle nut **5**.
The pretension force is distributed to the V-rings **7** via the stainless steel sleeve **3** thus preventing the leakage of media. The pretension provides low maintenance and reliable spindle sealing even after a long service life.



Part list

- 1 Conical spindle seal (PTFE)
- 2 O-ring (FPM), other materials on request
- 3 V-rings (PTFE)
- 4 Lock washer (1.4301), secures the nut thus holding the valve spindle in position
- 5 Spindle nut (1.4301)
- 6 Spring washer (1.4310)
- 7 Stainless steel sleeve (1.4301)
- 8 Valve spindle (1.4401), the machined spindle surface reduces the friction at the spindle, reduces the actuation forces (torque) and minimizes wear
- 9 Antistatic device (1.4401), spindle ball



Port positions

T - port (Code T)

	End position „Closed“	End position „Open“	Position handlever As supplied End position „Open“
As supplied			
Code T			
Optional port positions, can be user adjusted			
Code 2			
Code 3			
Code 4			

L - port (Code L)

As supplied			
Code L			
Optional port positions, can be user adjusted			

General technical data

Working medium

Corrosive, inert, gaseous and liquid media and steam, which have no negative impact on the physical and chemical properties of the body and seal material.

Maximum permissible pressure of the working medium see diagram
(for water and non-hazardous media to which the body material is resistant)

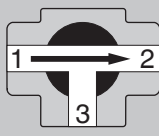
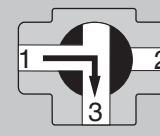
Maximum permissible operating temperature	180 °C
Maximum permissible ambient temperature	60 °C

Leakage rate

Leakage rate to ANSI FCI70 – B16.104
Leakage rate A to EN12266, 6bar air

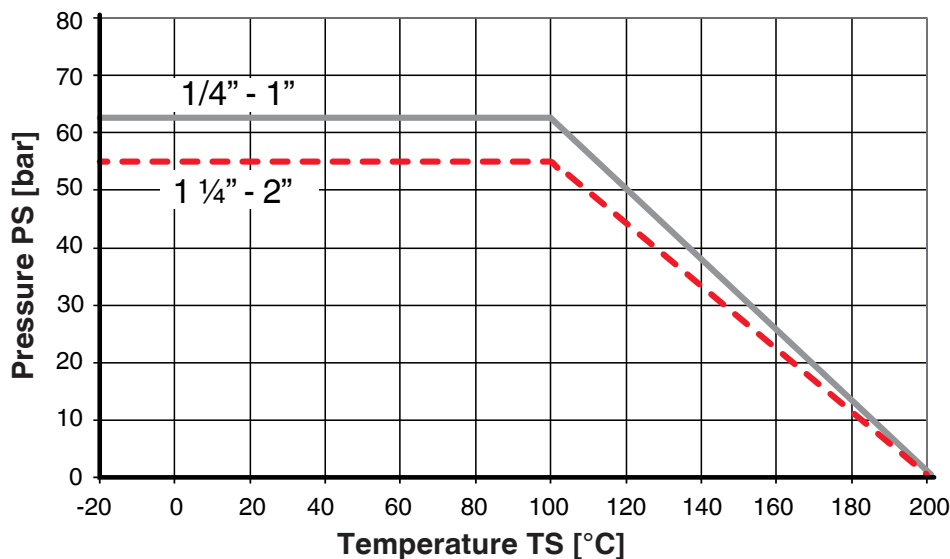
Control medium (only GEMÜ 751)

Control pressure	6 - 8 bar
Max. perm. temperature of control medium	60 °C

DN	NPS	Torque [Nm]	Weight* [kg]	Kv values		
				T-port		L-port
						
8	1/4"	8	0.66	6.9	5.2	6.0
10	3/8"	8	0.64	6.9	5.2	6.0
15	1/2"	10	0.85	11.2	6.9	9.5
20	3/4"	13	1.46	16.3	9.5	12.9
25	1"	23	2.18	29.2	18.9	29.2
32	1 1/4"	42	3.28	46.4	35.3	40.4
40	1 1/2"	51	5.24	72.2	46.4	60.2
50	2"	59	9.48	135.9	83.4	114.4

* without actuator

Pressure-temperature diagram



Order data - GEMÜ K715

1 Type	Code
3/2-way ball valves with top flange	K715

4 Connection	Code
Threaded sockets DIN ISO 228	1

2 Nominal size	Code
DN 8 1/4"	8
DN 10 3/8"	10
DN 15 1/2"	15
DN 20 3/4"	20
DN 25 1"	25
DN 32 1 1/4"	32
DN 40 1 1/2"	40
DN 50 2"	50

5 Valve body material	Code
Body: CF8M / 1.4408 Ball: SS316, for DN 8 - 15, CF8M for DN 20 - 50	37

3 Body configuration	Code
Straight through (2/2-way), see separate data sheet	
Multi-port body (3/2-way)	M

6 Seat material*	Code
PTFE	5
* Spindle seal in FPM (other materials on request)	

7 Ball configuration	Code
T-port	T
T-port	2
T-port	3
T-port	4
L-port	L
L-port	6
Ball configuration code see port positions page 3	

Order example	1	2	3	4	5	6	7
Code	K715	15	M	1	37	5	L

7 Ball configuration (only with body type M)	Code
T-port	T
L-port	L

Order data - GEMÜ 711 - manually operated

1 Type	Code
Ball valve with hand lever	711

4 Connection	Code
Threaded sockets DIN ISO 228	1

2 Nominal size	Code
DN 8 1/4"	8
DN 10 3/8"	10
DN 15 1/2"	15
DN 20 3/4"	20
DN 25 1"	25
DN 32 1 1/4"	32
DN 40 1 1/2"	40
DN 50 2"	50

5 Valve body material	Code
Body: CF8M / 1.4408 Ball: SS316, for DN 8 - 15, CF8M for DN 20 - 50	37

6 Seat material*	Code
PTFE	5
* Spindle seal in FPM (other materials on request)	

3 Body configuration	Code
Straight through (2/2-way), see separate data sheet	
Multi-port body (3/2-way)	M

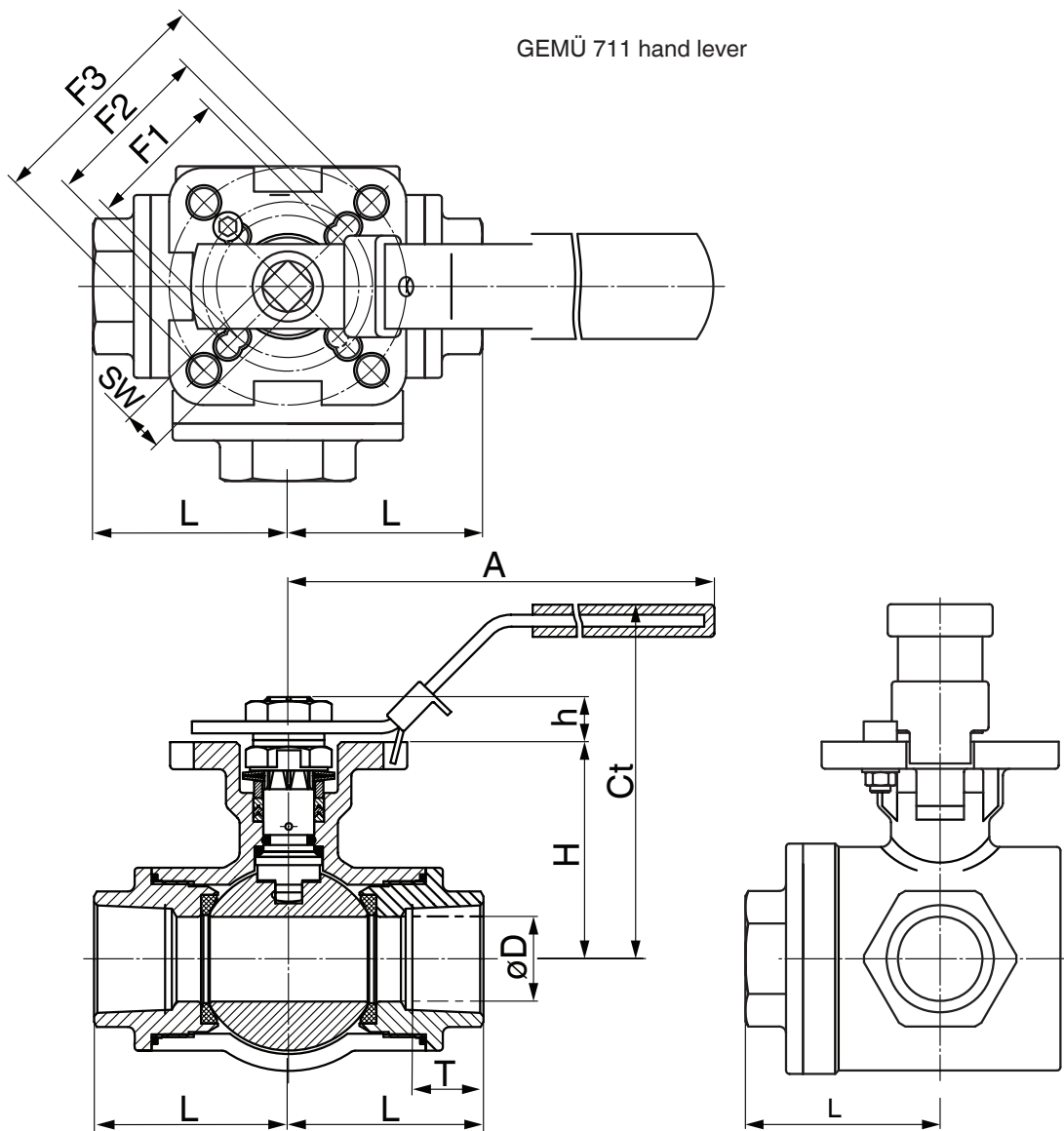
7 Control function	Code
Manually operated with lockable hand lever	L

8 Ball configuration	Code
T-portl	T
T-port	2
T-port	3
T-port	4
L-port	L
L-port	6
Ball configuration code see port positions page 3	

Order example	1	2	3	4	5	6	7	8
Code	711	15	M	1	37	5	L	T

Body dimensions [mm]

											GEMÜ 711	
DN	NPS	Top flange				H	h	L	T	øD	Hand lever	
		F1	F2	F3	SW						A	Ct
8	1/4"	F03	F04	-	9	38.1	9.0	36.0	12	11.0	140	75
10	3/8"	F03	F04	-	9	38.1	9.0	36.0	12	12.5	140	75
15	1/2"	F03	F04	F05	9	43.9	9.0	41.5	15	15.0	151	88
20	3/4"	F04	F05	-	11	54.2	10.5	49.5	17	20.0	166	93
25	1"	F04	F05	F07	11	64.1	10.5	56.0	21	25.0	183	109
32	1 1/4"	F05	F07	-	14	78.5	13.5	62.5	22	32.0	216	128
40	1 1/2"	F07	F10	-	17	94.9	18.5	74.5	23	38.0	263	154
50	2"	F07	F10	-	17	101.6	19.5	87.0	26	50.0	313	161



Order data - GEMÜ 751 - pneumatically operated

1 Type	Code
Ball valve with pneumatic actuator	751

2 Nominal size	Code
DN 8 1/4"	8
DN 10 3/8"	10
DN 15 1/2"	15
DN 20 3/4"	20
DN 25 1"	25
DN 32 1 1/4"	32
DN 40 1 1/2"	40
DN 50 2"	50

3 Body configuration	Code
Straight through (2/2-way), see separate data sheet	
Multi-port body (3/2-way)	M

4 Connection	Code
Threaded sockets DIN ISO 228	1

5 Valve body material	Code
Body: CF8M / 1.4408 Ball: SS316, for DN 8 - 15, CF8M for DN 20 - 50	37

6 Seat material*	Code
PTFE	5
* Spindle seal in FPM (other materials on request)	

7 Control function	Code
Normally closed (NC)	1
Normally open (NO)	2
Double acting (DA)	3

8 Actuator size		Code
DN	Single acting SC	
DN 8	751 8M 137 51	SU03KO0
DN 10	751 10M 137 51	SU03KO0
DN 15	751 15M 137 51	SU03KO0
DN 20	751 20M 137 51	SU06KP0
DN 25	751 25M 137 51	SU06KP0
DN 32	751 32M 137 51	SU10KC0
DN 40	751 40M 137 51	SU15KC0
DN 50	751 50M 137 51	SU15KC0
	Double acting DR	
DN 8	751 8M 137 53	DU01AO0
DN 10	751 10M 137 53	DU01AO0
DN 15	751 15M 137 53	DU01AO0
DN 20	751 20M 137 53	DU01AO0
DN 25	751 25M 137 53	DU03AP0
DN 32	751 32M 137 53	DU06AP0
DN 40	751 40M 137 53	DU06AP0
DN 50	751 50M 137 53	DU06AC0
DN	Single acting ASR	
DN 8	751 8M 137 51	AU04KA0
DN 10	751 10M 137 51	AU04KA0
DN 15	751 15M 137 51	AU04KB0
DN 20	751 20M 137 51	AU04KB0
DN 25	751 25M 137 51	AU08KC0
DN 32	751 32M 137 51	AU13KC0
DN 40	751 40M 137 51	AU20KE0
DN 50	751 50M 137 51	AU20KE0
	Double acting ADA	
DN 8	751 8M 137 53	BU02AA0
DN 10	751 10M 137 53	BU02AA0
DN 15	751 15M 137 53	BU02AN0
DN 20	751 20M 137 53	BU02AB0
DN 25	751 25M 137 53	BU04AB0
DN 32	751 32M 137 53	BU08AC0
DN 40	751 40M 137 53	BU08AC0
DN 50	751 50M 137 53	BU08AC0

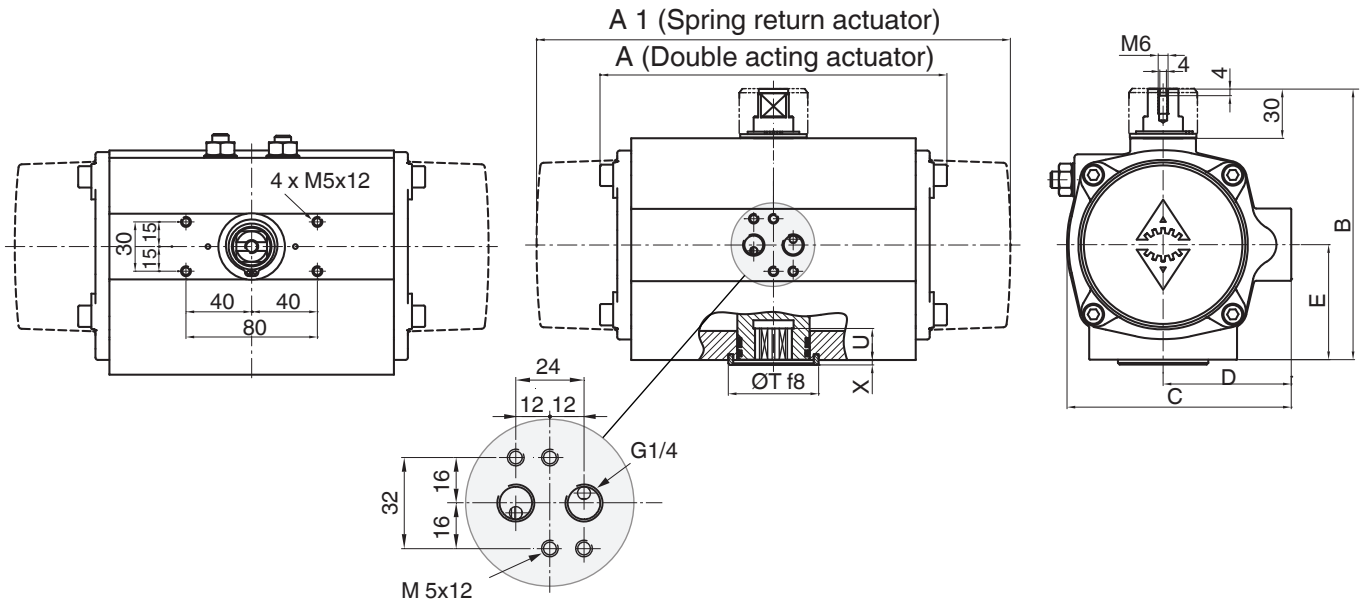
9 Ball configuration	Code
T-portl	T
T-port	2
T-port	3
T-port	4
L-port	L
L-port	6
Ball configuration code see port positions page 3	

10 K number	Code
Mounting flange with adapter	5222
For operating temperatures > 100° C a mounting flange with an adapter is required between ball valve and actuator! See data sheet: -Accessories for quarter turn valves-	

Order example	1	2	3	4	5	6	7	8	9	10
Type (code)	751	15	M	1	37	5	1	SU03KO0	L	5222

Actuator dimensions - GEMÜ 751 - pneumatically operated

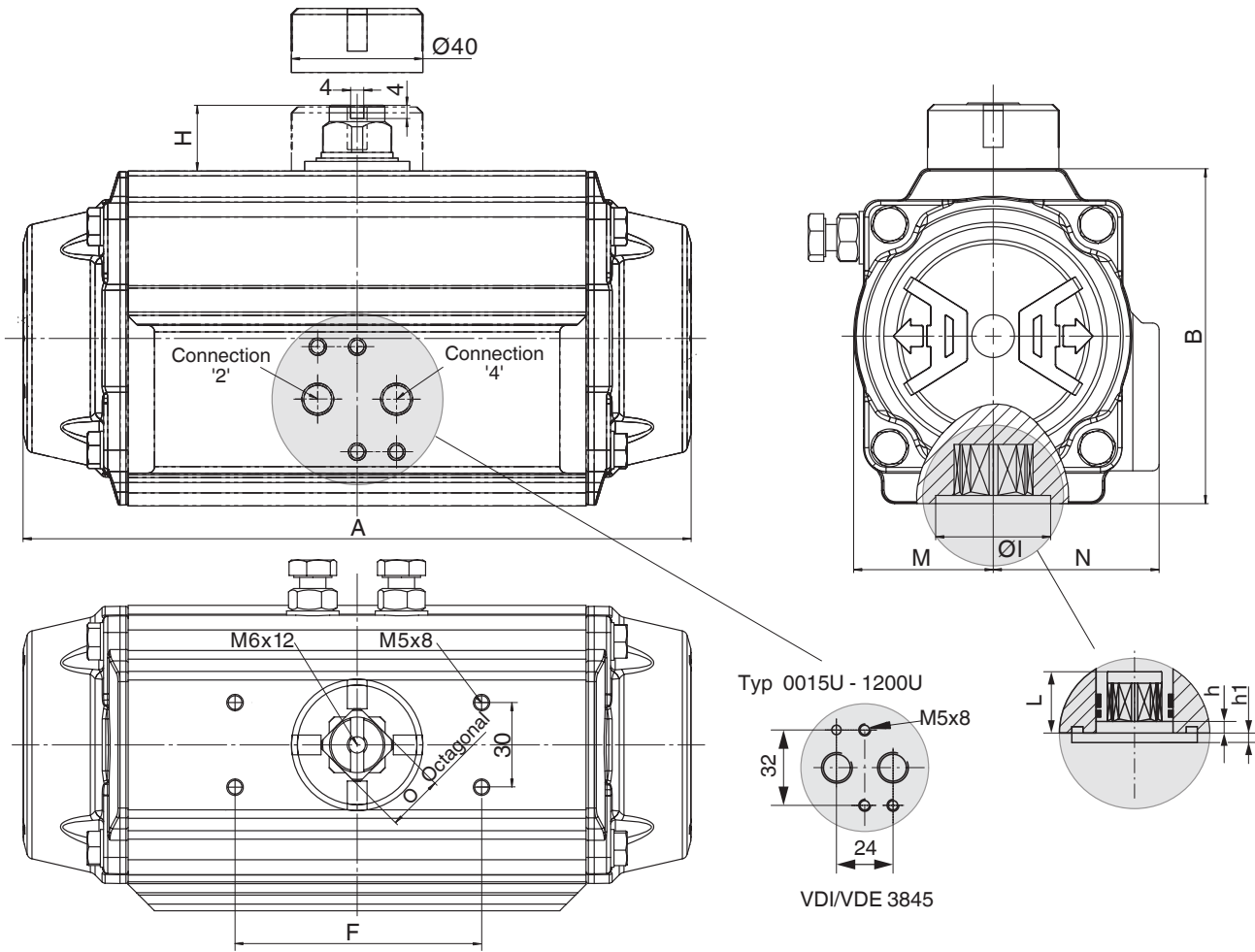
Actuator ADA/ASR [mm]



ADA/ASR	0020U			0040U		0080U	0130U	0200U	0300U	0500U
	F03/F05	F04	F05	F04	F05	F05	F05	F07	F07	F10
ISO 5211	F03/F05	F04	F05	F04	F05	F05	F05	F07	F07	F10
Octagonal	9	14		14		17	17	17	22	22
Air connector	G1/4			G1/4		G1/4	G1/4	G1/4	G1/4	G1/4
A	145			158		177	196	225	273	304
A1	163			195		217	258	299	348,5	397
B	96			115		137	147	165	182	199
C	76			91		111	122	135,5	152,5	173
D	48			56		66	71	78	86	96
E	34			45		55	60	70	80	85
ØT	25	35		35		55	55	55	70	70
U	10	12		12		19	22	23	24	32
Weight [kg]										
ADA	1,4			2,1		3,0	3,8	5,6	8,5	11,2
ASR	1,5			2,3		3,7	4,8	7,3	10,8	15,4

Actuator dimensions - GEMÜ 751 - pneumatically operated

Actuator DR/SC [mm]



Stroke limiter on request

Typ	0015U	0030U	0060U	0100U	0150U	0220U	0300U	0450U
ISO Flange	F04	F04/05	F05/07	F05/07	F07/10	F07/10	F07/10	F10/12
Octagonal	11	14	14	17	17	22	22	27
Air Connector	G 1/8	G 1/8	G 1/8	G 1/8	G 1/4	G 1/4	G 1/4	G 1/4
A	136.0	153.5	203.5	241.0	259.0	304.0	333.0	394.5
B	69.0	85.0	102.0	115.0	127.0	145.0	157.0	177.0
H	20	20	20	20	20	30	30	30
Ø I	30	35	35	40	55	55	55	70
M	29.0	36.0	42.5	49.5	55.5	64.0	69.5	80.0
N	43.0	48.5	50.5	56.5	63.0	72.0	77.0	86.0
O	11	11	17	17	17	27	27	27
h	0.5	0.5	0.5	1.5	1.5	1.5	1.5	1.5
h1	1.5	2.0	2.0	1.5	2.0	2.0	2.0	3.0
L	11	11	19	19	19	19	25	32
Weight [kg]								
DR	1.0	1.6	2.7	3.7	5.2	8.0	9.8	14.0
SC	1.1	1.7	3.1	4.3	6.1	9.3	12.0	17.0

Technical data - GEMÜ 728 - motorized

Travel range

Nominal travel range	90°
Max. travel range	93°
Setting range limit switch Min.	-2 to 12°
Setting range limit switch Max.	76 to 91°

Manual override

With Allen key SW3 for actuator version 1015, 2015, 3035
With hand crank for actuator version 2070

Permissible temperatures

Ambient temperature	-10 to +60° C
Storage temperature	-20 to +60° C

Weight

Actuator version 1015	1.0 kg
Actuator version 2015	1.2 kg
Actuator version 3035	2.4 kg
Actuator version 2070	4.6 kg

Protection class to EN 60529

IP 65

Actuator materials

Actuator version	1015	2015, 3035	2070
Housing base	PP (30% glass reinforced)	PP (30% glass reinforced)	ABS
Housing cover	PPO (10% glass reinforced)	PP (30% glass reinforced)	ABS
Optical position indicator	PPR natural	PPR natural	PPR natural

Correlation Actuator / Ball valve type 728

Ball valve			Actuator version			
DN	Flange type	SW	1015 15 Nm	2015 15 Nm	3035 35 Nm	2070 70 Nm
8	F04	9	F04/F05	F04/F05	-	-
10	F04	9	F04/F05	F04/F05	-	-
15	F04	9	F04/F05	F04/F05	-	-
20	F05	11	F04/F05	F04/F05	-	-
25	F05	11	-	-	F05	F07
32	F07	14	-	-	-	F07
40	F10	17	-	-	-	F07
50	F10	17	-	-	-	F07

Note: For connection and wiring diagrams for motorized GEMÜ actuators see data sheet

Data sheet GEMÜ 9428: Actuator version code 1015, 2015, 3035

Data sheet GEMÜ 9468: Actuator version code 2070

Technical data - GEMÜ 728 - motorized

Correlation Actuator version (torque) / Voltage-frequency

Voltage/Frequency		B1 12 V DC	C1 24 V DC	B4 12 V AC	C4 24 V AC	G4 120 V AC	L4 230 V AC	O4 100-250 V AC
Actuator version	1015 (15 Nm)	X	X	-	-	-	-	-
	2015 (15 Nm)	-	-	X	X	-	-	X
	3035 (35 Nm)	-	X	-	X	-	-	X
	2070 (70 Nm)	-	X	-	X	X	X	-

Correlation Actuator version (torque) / Functional module

Functional module		A0	AE	AP	E2	E1	00	0E	0P
Actuator version	1015 (15 Nm)	X	X	-	-	-	-	-	-
	2015 (15 Nm)	X	X	-	-	-	-	-	-
	3035 (35 Nm)	X	X	-	-	-	-	-	-
	2070 (70 Nm)	X	X	X	X	X	X	X	X

Power consumption [W]

Voltage/Frequency		B1 12 V DC	C1 24 V DC	B4 12 V AC	C4 24 V AC	G4 120 V AC	L4 230 V AC	O4 100-250 V AC	
Functional module		A0,AE,AP E1,E2	A0,AE,AP E1,E2	A0,AE,AP E1,E2	A0,AE,AP E1,E2	00,0E 0P	A0,AE,AP E1,E2	A0,AE,AP E1,E2	A0,AE
Actuator version	1015	30	30	-	-	-	-	-	-
	2015	-	-	-	30	30	-	-	50
	3035	-	30	-	-	30	-	-	50
	2070	-	96	63	-	-	63	160	161

Electrical connection

Actuator version	1015, 2015, 3035			2070			
	12 V / 24 V		100 - 250 V	24 V, 120 V, 230 V			
Functional module	A0, AE			A0, AE, AP	00, 0E, 0P	E1	E2
Control input voltage	Motor voltage		20 - 250 V AC/DC	24 - 250 V AC/DC	Motor voltage	0 to 10 V	-
Control input current	-		typ. 1 mA	typ. 1 mA			0/4 to 20 mA
Rating	Continuously rated		rated 40%	Continuously rated			
Connection	Cable connection PG 13,5		Hirschmann plug type Typ N6RFFS11	Flange plug Binder 692/693			
Cable diameter	7,5 ... 12,5 mm		7 ... 9 mm	max. 8 mm			
Max. cross section of wire	1,5 mm ²		1,5 mm ²	0,75 mm ²			
Recommended connection cable	5x1 mm ²		1 connector (standard): 7x1 mm ²	7x1 mm ²			
Overload protection	Motor protective system by customer		Integrated stall and overload protection plus excess current release T 1A 5x20 mm	Motor protective system by customer			

Order data - GEMÜ 728 - motorized

1 Type	Code
Ball valve with pneumatic actuator	728

2 Nominal size	Code
DN 8 1/4"	8
DN 10 3/8"	10
DN 15 1/2"	15
DN 20 3/4"	20
DN 25 1"	25
DN 32 1 1/4"	32
DN 40 1 1/2"	40
DN 50 2"	50

3 Body configuration	Code
Straight through (2/2-way), see separate data sheet	
Multi-port body (3/2-way)	M

4 Connection	Code
Threaded sockets DIN ISO 228	1

5 Valve body material	Code
Body: CF8M / 1.4408 Ball: SS316, for DN 8 - 15, CF8M for DN 20 - 50	37

6 Seat material*	Code
PTFE	5
* Spindle seal in FPM (other materials on request)	

7 Voltage/Frequency	Code
12 V DC	B1
12 V AC 50/60Hz	B4
24 V DC	C1
24 V AC 50/60Hz	C4
120 V AC 50/60Hz	G4
100-250 V AC 50/60Hz	O4
230 V AC 50/60Hz	L4

8 Functional module	Code
OPEN / CLOSE control with relay, not reversible	00
OPEN / CLOSE control with 2 additional potential-free limit switches, with relay, not reversible	0E
OPEN / CLOSE control with potentiometer output, with relay, not reversible	0P
Standard OPEN/CLOSE control	A0
OPEN/CLOSE control with 2 additional potential-free limit switches	AE
OPEN/CLOSE control with potentiometer output	AP
Control module for external set value 0-10V DC	E1
Control module for external set value 0/4-20 mA	E2

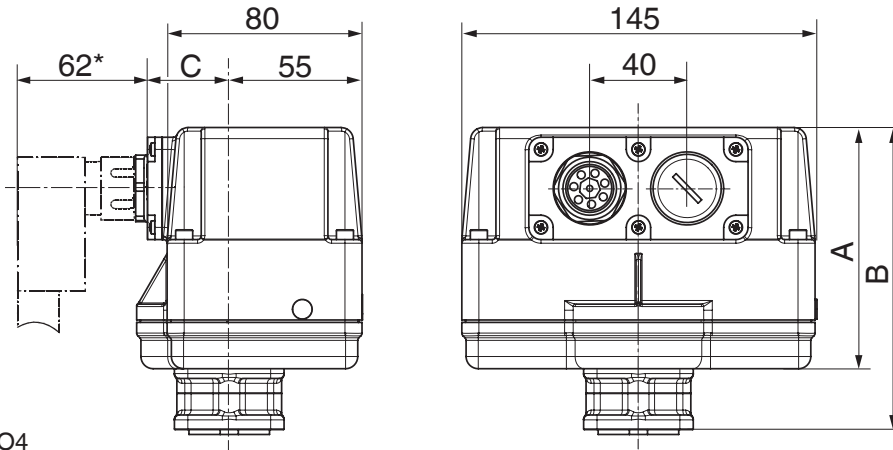
9 Actuator version	Code
DN 8 - 20 (Torque 15 Nm) operating time 11 sec; supply voltage B1/C1	1015
DN 8 - 20 (Torque 15 Nm) operating time 11 sec; supply voltage B4/C4/O4	2015
DN 25 (Torque 35 Nm) operating time 15 sec; supply voltage C1,O4	3035
DN 32 - 50 (Torque 70 Nm) operating time 15 sec; supply voltage C1/C4/G4/L4	2070

10 Ball configuration	Code
T-portl	T
T-port	2
T-port	3
T-port	4
L-port	L
L-port	6
Ball configuration code see port positions page 3	

11 K number	Code
Mounting flange with adapter	5222
For operating temperatures > 100° C a mounting flange with an adapter is required between ball valve and actuator! See data sheet: -Accessories for quarter turn valves-	

Order example	1	2	3	4	5	6	7	8	9	10	11
Code	728	20	M	1	37	5	C1	A0	1015	L	5222

Actuator dimensions - GEMÜ 728 motorized [mm]



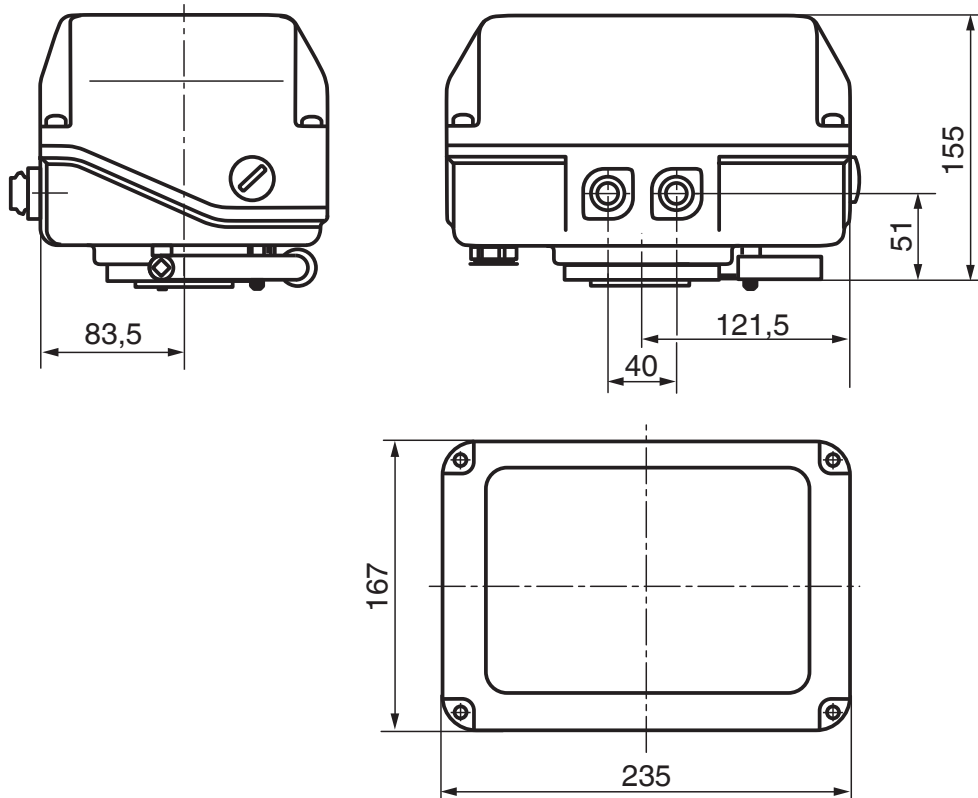
* Standard with supply voltage code O4

Actuator version 1015					
DN	ISO 5211	SW*	A	B	C
8 - 15	F04/F05	9			
20	F05	11	69	94	34

Actuator version 2015					
DN	ISO 5211	SW*	A	B	C
8 - 15	F04/F05	9			
20	F05	11	99	124	38

* SW square drive socket

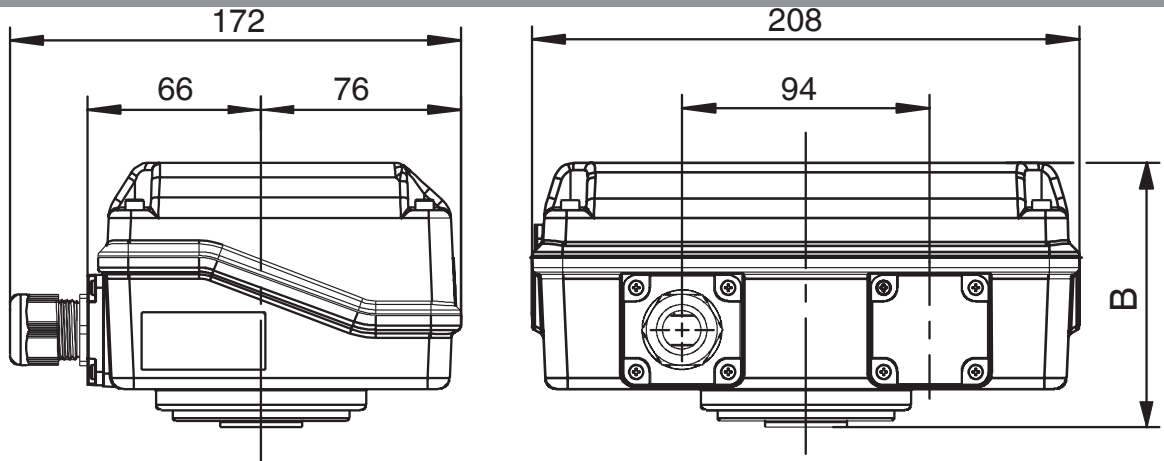
Actuator version 2070



DN	Voltages	ISO 5211	SW square drive socket
25	24 V DC		11
32	24, 120, 230 V	F07	14
40, 50	AC 50/60Hz		17

Actuator dimensions - GEMÜ 728 motorized [mm]

Actuator version 3035

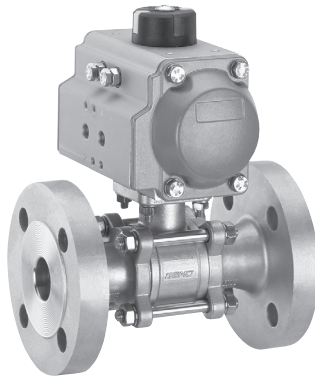


DN	Voltages	B
25	24 V	100,5
	100 V - 250 V	124,5

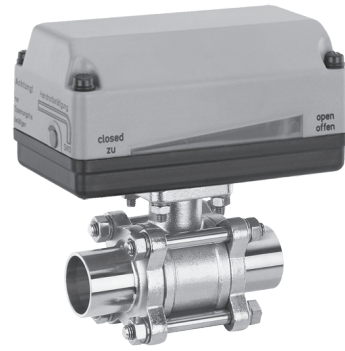
GEMÜ 3-piece 2/2-way stainless steel ball valves



GEMÜ 711



GEMÜ 751

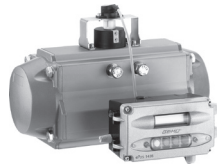


GEMÜ 728

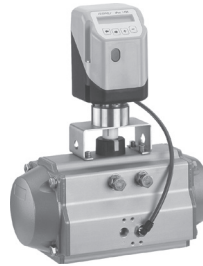
Instrumentation for quarter turn valves



GEMÜ ES2
Electrical
position indicator
on pneumatic actuator



GEMÜ 1435 ePos
Intelligent positioner
on pneumatic actuator



GEMÜ 1436 cPos
Intelligent positioner and
process controller on
pneumatic actuator

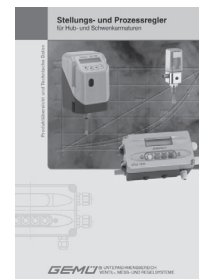


GEMÜ 4221
Combi switchbox with
integrated pilot valve on
pneumatic actuator

For detailed information on electrical position indicators, combi switchboxes and positioners for quarter turn valves please refer to the adjacent brochures.



Electrical position indicators and combi switchboxes



Positioners and process controllers

For further ball valves and other products, please see our Product Range catalogue and Price List. Contact GEMÜ.

GEMÜ® VALVES, MEASUREMENT
AND CONTROL SYSTEMS

